

Child Survival and Maternal Health: U.S. Agency for International Development Programs, FY2001-FY2008

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Summary

Appropriations for child survival and maternal health programs (CS/MH) have grown by about 22% during the tenure of President George W. Bush. Most of that growth occurred in FY2008, when Congress provided \$521.9 million for CS/MH programs, up from \$361.1 million in FY2001. Although Congress provided support during this time for other global health initiatives that affect CS/MH, such as some \$19.7 billion for international programs that prevent and treat human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/AIDS), tuberculosis (TB), and malaria, other global health interventions are discussed only as they relate to USAID's CS/MH programs.

According to latest estimates, 9.7 million children under the age of five died in 2006; some 26,000 each day. The majority of those deaths occurred in developing countries, and almost half of them in Africa. On average, nearly 90% of all child deaths are caused by neonatal infections and five other diseases: acute respiratory infections (primarily pneumonia), diarrhea, malaria, measles, and HIV/AIDS. Undernutrition contributes to more than half of these deaths.

More than 500,000 women die each year due to pregnancy-related causes, and many more suffer debilitating long-term effects, such as obstetric fistula. Most of these deaths occur in developing countries. About 20% of global maternal deaths are linked to undernutrition, and about 75% result from obstetric complications, most often hemorrhage, sepsis, eclampsia, and prolonged or obstructed labor.

While most health experts applaud the recent increase in U.S. commitment to global health, many remain concerned that funding is largely aimed at specific diseases, such as HIV/AIDS and malaria. Other health programs that offer life-saving interventions for women and children are overlooked and underfunded, they contend, particularly in sub-Saharan Africa. In addition to proposing an increase in funding for CS/MH programs, some observers urge Congress to boost support for health systems so that countries can better address a wide range of health issues that affect child survival and maternal health. This report will be updated at the end of the 110th Congress.

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Introduction

Although a number of U.S. agencies and departments implement global health programs that might improve child survival and maternal health (CS/MH), this report focuses only on CS/MH programs conducted by the U.S. Agency for International Development (USAID) from FY2001 to FY2008. This report also discusses the interconnected nature of USAID's global health programs, such as how advancements made in addressing malaria might improve maternal and child survival.

Child Survival

In the United Nations Children's Fund (UNICEF) report *The State of the World's Children 2008: Child Survival*, UNICEF Executive Director Ann Veneman celebrated the decline of total annual deaths among children under age five. In 2006, an estimated 9.7 million children in that age range died, representing a 60% drop in under-five mortality since 1960.¹ Despite the decrease, Ms. Veneman asserted that a critical number of daily deaths among children under five remains high; some 26,000 die each day. Most studies that measure child mortality focus on deaths that occur before age five because 90% of childhood deaths occur during this time, while 37% occur during the neonatal period (the first 28 days), amounting to about 4 million annual newborn deaths.²

The majority of child deaths occur in developing countries, and almost half of them in Africa. On average, nearly 90% of all child deaths are caused by neonatal infections and five infectious diseases: acute respiratory infections (mostly pneumonia), diarrhea, malaria, measles and HIV/AIDS (**Table 1**). According to UNICEF, undernutrition is the underlying cause of up to half of these deaths.³

¹ UNICEF, *The State of the World's Children 2008: Child Survival*, p. 2, at <http://www.unicef.org/sowc08/report/report.php>, visited on February 5, 2008.

² World Health Organization's (WHO) website on child health, at http://www.who.int/features/factfiles/child_health2/en/index.html, visited on February 5, 2008.

³ UNICEF, *The State of the World's Children 2008: Child Survival*, p. 2.

Table 1. Key Causes of Death Among Children Younger than Five Years, 2000

(% of total deaths)

Region	Infectious Diseases						Non-Infectious Diseases			
	Acute Respiratory Infections	Malaria	Diarrheal Diseases	HIV/AIDS	Measles	Total Infectious Diseases	Neonatal Causes	Injuries	Other	Total Non-Infectious Diseases
Africa	21.1	17.5	16.6	6.8	4.3	66.3	26.2	1.9	5.6	33.7
Americas	11.6	0.4	10.1	1.4	0.1	23.6	43.7	4.9	27.9	76.5
Southeast Asia	18.1	1.1	20.1	0.6	3.5	43.4	44.4	2.3	9.9	56.6
Europe	13.1	0.5	10.2	0.2	0.1	24.1	44.3	6.2	25.4	75.9
East Mediterranean	19.0	2.9	14.6	0.4	3.0	39.9	43.4	3.2	13.5	60.1
Western Pacific	13.8	0.4	12.0	0.3	0.8	27.3	47.0	7.3	18.4	72.7
Global	19.0	8.0	17.0	3.0	3.0	50.0	37.0	3.0	11.0	51.0

Source: World Health Organization (WHO), *2007 World Health Statistics*, p. 31.

Note: Figures may not add up to 100% because of rounding.

Some health experts assert that maternal and child health are particularly important to monitor, because their mortality rates serve as a barometer for overall health conditions.⁴ Supporters of this idea often use the Millennium Development Goals (MDGs) listed in **Table 2** to demonstrate the interconnected nature of health and development and to gauge improvements in child and maternal health (**Table 3**).⁵ MDGs 4 and 5 call for a two-thirds reduction in child and maternal mortality. The ability to reach those goals, however, is affected by progress in other MDGs. For example, countries with significant undernourished populations (MDG 1) that lack sufficient access to clean water (MDG 7) tend to have higher maternal and child mortality rates (MDGs 4 and 5); undernourished women and children are also more likely to be impoverished (MDG 1) and are more susceptible to infectious diseases, such as HIV/AIDS, TB, and malaria (MDG 6). UNICEF found that 62 countries were making no progress towards the Millennium Development Goal on child survival; nearly 75% of these were in Africa.

Table 2. Millennium Development Goals to Be Achieved by 2015

MDG 1	Eradicate extreme poverty and hunger.
MDG 2	Achieve universal primary education.
MDG 3	Promote gender equality and empower women.
MDG 4	Reduce child mortality by two-thirds.
MDG 5	Reduce maternal mortality by two-thirds.
MDG 6	Combat HIV/AIDS, malaria, and other diseases.
MDG 7	Ensure environmental sustainability (includes halving the proportion of those without access to clean water).
MDG 8	Develop a global partnership for development.

Source: U.N. website on the U.N. Millennium Development Goals, at <http://www.un.org/millennium/declaration/ares552e.pdf>.

⁴ UNICEF, *The State of the World's Children 2008: Child Survival*, p. 2.

⁵ In September 2000, the United Nations (U.N.) General Assembly adopted the Millennium Declaration, which committed member states to providing resources to help needy countries reach eight Millennium Development Goals by 2015. U.N. General Assembly, *United Nations Millennium Declaration*, September 18, 2000, at <http://www.un.org/millennium/declaration/ares552e.pdf>, visited on February 5, 2008.

Table 3. Global Progress in Reducing Child Mortality

Region	Infant Mortality Rate		U5MR ^a		AARR ^b		Progress Toward MDG 4 ^c
	# of deaths per 1,000 live births		# of deaths per 1,000 live births		Observed %	Required %	
	1990	2006	1990	2006	1990-2006	2007-2015	
Sub-Saharan Africa	95	44	187	160	1.0	10.2	Insufficient Progress
East and South Africa	83	40	165	131	1.4	9.6	Insufficient Progress
West and Central Africa	107	48	208	186	0.7	11.0	No Progress
Middle East and North Africa	36	26	79	46	3.4	6.2	Insufficient Progress
South Asia	62	44	123	83	2.5	7.8	Insufficient Progress
East Asia and Pacific	23	20	55	29	4.0	5.1	On Track
Latin America and Caribbean	22	15	55	27	4.2	4.7	On Track
Central and East Europe	24	18	53	27	4.2	4.7	On Track
Industrialized Countries	5	4	10	6	3.2	6.6	On Track
Developing Countries	54	33	103	79	1.7	9.3	Insufficient Progress
World	49	30	93	72	1.6	9.4	Insufficient Progress

Source: UNICEF, State of the World's Children 2008: Child Survival.

a. **U5MR**—Under-Five Mortality Rate

b. **AARR**—Average Annual Rate of Reduction in the under-five mortality rate.

c. **MDG 4**—Millennium Development Goal 4: to reduce child mortality by two-thirds by 2015.

Notes:

Observed %—the rate at which U5MR has fallen from 1990 to 2006.

Required %—the rate at which U5MR must fall in order to cut under-five mortality by two-thirds by 2015 (MDG 4).

On Track—U5MR is less than 40, or U5MR is 40 or more and the observed AARR is 4.0% or more.

Insufficient progress—U5MR is 40 or more and the observed AARR is between 1.0% and 3.9%.

No progress—U5MR is 40 or more and the observed AARR is less than 1.0%.

Maternal Health

UNICEF asserts that child survival and maternal health are inextricably linked. More than 500,000 women die each year due to pregnancy-related causes, and an additional 15-20 million

more suffer debilitating long-term effects,⁶ such as obstetric fistula (discussed below). The vast majority of women who die during or shortly after labor live in developing countries where maternal mortality rates are significantly higher than in industrialized nations (**Table 4**). The United Nations Food and Agriculture Organization (FAO) maintains that almost all of these deaths could be prevented if women in developing countries had access to adequate diets, safe water and sanitation facilities, basic literacy, and health services during pregnancy and childbirth.⁷ UNICEF estimates that 20% of all maternal deaths are linked to undernutrition and that about 75% of maternal deaths are caused by obstetric complications including hemorrhage,⁸ sepsis, hypertensive disorders (mostly eclampsia), prolonged or obstructed labor, and unsafe abortions.⁹

Maternal mortality and morbidity rates are generally higher for mothers younger than 20 years who typically have more pregnancy and delivery complications, such as toxemia, anemia, premature delivery, prolonged labor, and cervical trauma, and are at higher risk of delivering low birth weight babies. Pregnancy-related complications are the leading cause of death among 15-to-19-year-olds around the world, and their babies have higher morbidity and mortality rates.¹⁰ The United Nations estimates that adolescents give birth to 15 million infants each year. Girls aged between 15 and 19 years are twice as likely to die from childbirth as women in their twenties, and those younger than 15 years are five times as likely to die.¹¹ A survey conducted in Mali indicated that the maternal mortality rate for girls aged between 15 and 19 years was 178 per 100,000 live births and 32 per 100,000 for women aged between 20 and 34 years.¹²

Table 4. Regional and U.S. Maternal Care and Mortality Rates

	Prenatal Care Coverage	Skilled Attendant at Delivery	Institutional Delivery	Maternal Mortality Ratio (per 100,000)	Lifetime Risk of Maternal Death, 1 in:
Region	2000-2006			2005	
Sub-Saharan Africa	69%	43%	36%	920	22
East and South Africa	71%	40%	32%	760	29

⁶ USAID website on maternal health, at http://www.usaid.gov/our_work/global_health/mch/mh/index.html, visited on June 23, 2008.

⁷ FAO, *State of Food Insecurity in the World 2005*, p. 20, at <http://www.fao.org/docrep/008/a0200e/a0200e00.htm>, visited on February 5, 2008.

⁸ Postpartum hemorrhage occurs when the woman bleeds excessively from her uterus after a baby is delivered. Sepsis is a blood infection that people whose immune systems are weakened due to illness, such as cancer or HIV/AIDS, are more prone to contract. Infants may contract the disease from their mothers. Also referred to as toxemia, preeclampsia is a condition that occurs when a pregnant woman has high blood pressure accompanied by a high level of protein in the urine. Eclampsia occurs when preeclampsia is untreated. In addition to preeclampsia symptoms, women with eclampsia often have seizures. Eclampsia can also cause coma or death of the mother and baby before, during, or after childbirth.

⁹ UNICEF, *Countdown to 2015: Maternal, Newborn & Child Survival*, 2008, p. 42, at <http://www.who.int/pmnch/Countdown2015FINALREPORT-apr7.pdf>.

¹⁰ CDC, *Family Planning Methods and Practice: Africa*, 2001, at http://www.cdc.gov/reproductivehealth/Products&Pubs/Africa/Africa_bk.pdf.

¹¹ United Nations, *We the Children: End-Decade Review of the Follow-Up to the World Summit for Children*, 2001, at <http://www.unicef.org/specialsession/documentation/documents/a-s-27-3e.pdf>.

¹² *Too Young to Wed: The Lives, Rights and Health of Young Married Girls*. International Center for Research on Women, 2003. http://www.icrw.org/docs/tooyoungtowed_1003.pdf.

	Prenatal Care Coverage	Skilled Attendant at Delivery	Institutional Delivery	Maternal Mortality Ratio (per 100,000)	Lifetime Risk of Maternal Death, 1 in:
Region	2000-2006			2005	
West and Central Africa	67%	46%	39%	1,100	17
Middle East and North Africa	72%	79%	68%	210	140
South Asia	65%	41%	36%	500	59
East Asia and Pacific	89%	87%	69%	150	350
Latin America and Caribbean	94%	n/a	86%	130	280
Industrialized Countries	n/a	99%	n/a	8	8,000
Developing Countries	75%	59%	53%	450	76
Least Developed Countries	61%	38%	27%	870	24
United States	n/a	99%	n/a	11	4,800
World	75%	63%	53%	400	92

Source: Compiled by CRS from UNICEF, State of the World's Children 2008: Child Survival.

Causes of maternal death vary significantly among regions. Data collected from 1990 through 2006 indicate that hemorrhage caused about 34% and 31% of maternal deaths in Africa and Asia, respectively. In industrialized nations and Latin America and the Caribbean, hemorrhage caused an estimated 13% and 21% of maternal deaths, respectively (**Table 5**). The United Nations has found that regions with the lowest proportions of skilled health attendants at birth also have the highest maternal mortality rates.¹³ In sub-Saharan Africa, 43% of women gave birth with the assistance of a skilled birth attendant, 65% in south Asia, and 99% in industrialized nations. One in every 22 women in sub-Saharan Africa will likely die from pregnancy-related causes, as will one in every 59 Asian women. In industrialized nations, meanwhile, one in every 8,000 woman faces the probability of dying from pregnancy-related causes.

Table 5. Causes of Maternal Deaths: 1990-2006

Cause of Death	Developed Countries	Africa	Asia	Latin America and the Caribbean
Number of Maternal Deaths	2,823	4,508	16,089	11,777
Hemorrhage	13.4%	33.9%	30.8%	20.8%
Hypertensive Disorders	16.1%	9.1%	9.1%	25.7%
Sepsis/Infections	2.1%	9.7%	11.6%	7.7%

¹³ United Nations, *The Millennium Development Goals Report: 2007*, at <http://www.un.org/millenniumgoals/pdf/mdg2007.pdf>.

Cause of Death	Developed Countries	Africa	Asia	Latin America and the Caribbean
Abortion	8.2%	3.9%	5.7%	12.0%
Obstructed Labor	0.0%	4.1%	9.4%	13.4%
Anemia	0.0%	3.7%	12.8%	0.1%
HIV/AIDS	0.0%	6.2%	0.0%	0.0%
Ectopic Pregnancy	4.9%	0.5%	0.1%	0.5%
Other	55.3%	28.9%	20.5%	19.8%

Source: Khalid Khan et al., "WHO Analysis of Causes of Maternal Death: A Systematic Review," *Lancet*.

UNICEF has found that health systems in many countries do not have the capacity to reduce mortality nationwide.¹⁴ Of the 68 priority countries that account for 97% of all maternal and child deaths, 54 (80%) have health workforce densities below the critical threshold (2.5 health workers per 1,000 people) for significantly improving their health conditions and reaching the health-related MDGs (**Table 6**). South Africa and Swaziland are the only two sub-Saharan African countries among the 68 priority countries that have reached the minimum standard. Child and maternal survival rates are higher in areas with ample numbers of health workers to administer immunizations, easy access to clean water, controlled mosquito populations, and sufficient access to nutritious food.¹⁵

While the greatest shortage of health care workers in absolute terms is in southeast Asia (mostly in Bangladesh, India, and Indonesia), sub-Saharan Africa suffers from the greatest proportional shortage of health care workers in the world.¹⁶ WHO estimates that there are 57 countries with critical shortages of health care workers, of which 36 are in Africa and none in industrialized nations. Globally, WHO estimates that an additional 4.3 million health workers are needed, and that on average, countries across Africa would need to increase their number of health workers by about 140% in order to meet the minimum threshold of 2.5 health care professionals per 1,000 people.

Table 6. Health Worker Density in 68 Priority Countries and the United States

Country	Physicians		Nurses		Level of Maternal Mortality	Progress Toward MDG 4
	Number	Number per 1,000	Number	Number per 1,000		
	1997-2004					
Afghanistan	4,104	0.19	4,752	0.22	Very High	No progress
Angola	881	0.08	13,135	1.15	Very High	No progress
Azerbaijan	29,687	3.55	59,531	7.11	Low	Insufficient
Bangladesh	38,485	0.26	20,334	0.14	Very High	On track

¹⁴ UNICEF, *Countdown to 2015: Maternal, Newborn & Child Survival*, 2008, p. vii.

¹⁵ Laurie Garrett, "The Challenge of Global Health," *Foreign Affairs*, New York: Jan/Feb 2007, Vol. 86, Issue 1, at <http://www.foreignaffairs.org/20070101faessay86103/laurie-garrett/the-challenge-of-global-health.html>, visited on February 5, 2008.

¹⁶ WHO, *2006 World Health Report*, p. 12, at <http://www.who.int/whr/2006/en/>.

Country	Physicians		Nurses		Level of Maternal Mortality	Progress Toward MDG 4
	Number	Number per 1,000	Number	Number per 1,000		
	1997-2004		2005			
Benin	311	0.04	5,789	0.84	Very High	Insufficient
Bolivia	10,329	1.22	27,063	3.19	Moderate	On track
Botswana	715	0.40	4,753	2.65	High	No progress
Brazil	198,153	1.15	659,111	3.84	Moderate	On Track
Burkina Faso	789	0.06	5,518	0.41	Very High	No Progress
Burma	17,791	0.36	19,254	0.38	High	Insufficient
Burundi	200	0.03	1,348	0.19	Very High	No progress
Cambodia	2,047	0.16	8,085	0.61	High	Insufficient
Cameroon	3,124	0.19	26,042	1.60	High	No progress
Central African Republic	331	0.08	1,188	0.30	Very High	No progress
Chad	345	0.04	2,387	0.27	Very High	No progress
China	1,364,000	1.06	1,358,000	1.05	Low	On track
Congo	756	0.20	3,672	0.96	Very High	No progress
Dem. Republic of Congo	5,827	0.11	28,789	0.53	Very High	No progress
Cote d'Ivoire	2,081	0.12	10,180	0.60	Very High	Insufficient
Djibouti	129	0.18	257	0.36	Very High	Insufficient
Egypt	38,485	0.54	146,761	2.00	Moderate	On track
Equatorial Guinea	153	0.30	228	0.45	Very High	No progress
Eritrea	215	0.05	2,505	0.58	High	On track
Ethiopia	1,936	0.03	14,893	0.21	Very High	Insufficient
Gabon	395	0.29	6,974	5.16	High	No progress
Gambia	156	0.11	1,719	1.21	Very High	Insufficient
Ghana	3,240	0.15	19,707	0.92	Very High	No progress
Guatemala	9,965	0.90	44,986	4.05	Moderate	On track
Guinea	987	0.11	4,757	0.55	Very High	Insufficient
Guinea Bissau	188	0.12	1,037	0.67	Very High	Insufficient
Haiti	1,949	0.25	834	0.11	Very High	On track
India	645,825	0.60	865,135	0.80	High	Insufficient
Indonesia	29,499	0.13	135,705	0.62	High	On track
Iraq	17,022	0.66	32,304	1.25	High	No progress
Kenya	4,506	0.14	37,113	1.14	Very High	No progress

Country	Physicians		Nurses		Level of Maternal Mortality	Progress Toward MDG 4
	Number	Number per 1,000	Number	Number per 1,000		
1997-2004					2005	Since 1990
Korea	75,045	1.57	83,333	1.75	High	No progress
Laos	2,812	0.59	4,931	1.03	Very High	On track
Lesotho	89	0.05	1,123	0.62	Very High	No progress
Liberia	103	0.03	613	0.18	Very High	No progress
Madagascar	5,201	0.29	5,661	0.32	High	Insufficient
Malawi	266	0.02	7,264	0.59	Very High	Insufficient
Mali	1,053	0.08	6,538	0.49	Very High	No progress
Mauritania	313	0.11	1,893	0.64	Very High	No progress
Mexico	195,897	1.98	88,678	0.90	Low	On track
Morocco	15,991	0.51	24,328	0.78	Moderate	On track
Mozambique	514	0.03	3,954	0.21	High	Insufficient
Nepal	5,384	0.21	5,664	0.22	Very High	On track
Niger	377	0.03	2,716	0.22	Very High	Insufficient
Nigeria	34,923	0.28	210,306	1.70	Very High	Insufficient
Pakistan	116,298	0.74	71,764	0.46	High	Insufficient
Papua New Guinea	275	0.05	2,841	0.53	High	Insufficient
Peru	29,799	1.17	17,108	0.67	Moderate	On track
Philippines	44,287	0.58	127,595	1.69	Moderate	On track
Rwanda	401	0.05	3,593	0.42	Very High	No progress
Senegal	594	0.06	3,287	0.32	Very High	Insufficient
Sierra Leone	168	0.03	1,841	0.36	Very High	No progress
Somalia	310	0.04	1,486	0.19	Very High	Insufficient
South Africa	34,829	0.77	184,459	4.08	High	No progress
Sudan	7,552	0.22	28,704	0.84	High	Insufficient
Swaziland	12,697	2.03	28,586	4.58	High	Insufficient
Tajikistan	12,697	2.03	28,586	4.58	Moderate	Insufficient
Tanzania	822	0.02	13,292	0.37	Very High	Insufficient
Togo	225	0.04	2,141	0.43	High	Insufficient
Turkmenistan	20,032	4.18	43,359	9.04	Moderate	On track
Uganda	2,209	0.08	16,221	0.61	Very High	Insufficient
Yemen	6,739	0.33	13,506	0.65	High	Insufficient
Zambia	1,264	0.12	19,014	1.74	Very High	No progress
Zimbabwe	2,086	0.16	9,357	0.72	Very High	No progress

Country	Physicians		Nurses		Level of Maternal Mortality	Progress Toward MDG 4
	Number	Number per 1,000	Number	Number per 1,000		
	1997-2004		2005			
United States	730,801	2.56	2,669,603	9.37	not applicable	not applicable

Source: WHO, 2006 World Health Report: Working Together for Health, at <http://www.who.int/whr/2006/en/>.

Notes: Bolded text in the Physicians and Nurses columns indicates countries have the minimum number (2.5) of health workers per 1,000 people. In some cases, the combined total of physicians and nurses enable countries to reach the threshold, with nurses significantly outnumbering doctors. Bolded text in the Level of Maternal Mortality and Progress Towards MDG4 columns reflects those countries that have “high” or “very high” maternal mortality rates and/or have made “no progress” or “insufficient” progress towards reducing the under-five mortality rate by two-thirds by 2015 (MDG 4). In most cases, those with at least 2.5 health workers per 1,000 people have moderate or low maternal mortality rates and/or are on track to reach MDG 4.

USAID’s Efforts to Improve Child Survival

The U.S. Agency for International Development is the lead U.S. agency responsible for improving child survival around the world. According to USAID, research that it supported during the 1970s and 1980s has been used to develop interventions and technologies now used to save millions of children.¹⁷ Over the past 20 years, USAID has committed more than \$6 billion in support of global child survival efforts.¹⁸ About half of those funds were committed from FY2001-FY2008, when Congress appropriated \$3.4 billion to child survival and maternal health efforts.

Recognizing that six health problems (acute respiratory infections, diarrhea, malaria, HIV/AIDS, measles, neonatal complications) cause about 90% of all child deaths in developing countries and that undernutrition contributes to half of these, USAID allocates a significant proportion of its child survival funds to addressing these health issues.¹⁹ This section summarizes information USAID has presented about its efforts to improve child and maternal health.

Child Survival and Undernutrition

The United Nations Food and Agriculture Organization (FAO) argues that the vast majority of the nearly 10 million children who die each year “would not die if their bodies and immune systems had not been weakened by hunger and malnutrition.”²⁰ Ten WHO-supported community-based studies conducted from 1991 through 2001 of children under age five found that children who are mildly underweight are about twice as likely to die of infectious diseases as children who are better nourished; for those who are moderately to severely underweight, the risk of death is five

¹⁷ See USAID website on maternal and child health at http://www.usaid.gov/our_work/global_health/mch/ch/techareas/ddcontrol_brief.html, visited on February 7, 2008.

¹⁸ See USAID’s website on child health at http://www.usaid.gov/our_work/global_health/mch/ch/index.html, visited on February 7, 2008.

¹⁹ See USAID’s website on child survival at http://www.usaid.gov/our_work/global_health/mch/ch/index.html, visited on February 13, 2008.

²⁰ FAO, *State of Food Insecurity in the World 2005*, p. 18, at <http://www.fao.org/docrep/008/a0200e/a0200e00.htm>, visited on February 5, 2008.

to eight times higher.²¹ The studies also indicated that 45% of children who died after contracting measles were malnourished, as were more than 60% of children who died after the onset of severe diarrhea.

Good nutrition can improve child survival, health, and cognitive development, while undernutrition impairs the immune system.²² Children with impaired immune systems disproportionately suffer from common childhood illnesses such as diarrhea, pneumonia, and measles. Undernourished children have also been found to be more susceptible to other infectious diseases such as malaria and tuberculosis. This section discusses USAID's nutrition programs, which focus on micronutrient supplementation and fortification and infant and young child feeding (IYCF).

Micronutrient Supplementation and Fortification

"USAID-supported micronutrient programs add vital immune-building micronutrients including zinc, vitamin A, iron, and iodine to processed foods such as rice and sugar."²³ USAID funds are also used to expand research on biofortified crops, which could improve the micronutrient content of basic foods, such as maize enhanced with vitamin A, iron, and zinc; beans enhanced with iron and zinc; and sweet potatoes enhanced with vitamin A. Micronutrient supplementation and other USAID nutrition programs are integrated with other interventions, including safe water, hygiene and sanitation.

Infant and Young Child Feeding

USAID estimates that more than "two-thirds of malnutrition-related infant and child deaths are associated with poor feeding practices during the first two years of life."²⁴ According to USAID, "less than one third of infants in most countries are exclusively breastfed during the first six months of life." Early cessation of breastfeeding and introducing foods either too early or too late expose infants to disease. USAID contends that the foods that are introduced are often nutritionally inadequate and unsafe. One USAID-supported study showed that "exclusively breastfed infants have 2.5 times fewer episodes of childhood diseases, are four times less likely to die of acute respiratory infection, and are up to 25 times less likely to die of diarrheal diseases." The study also indicated that continued breastfeeding during acute episodes of diarrhea protects infants from loss of energy and protein during illness. In communities affected by HIV/AIDS, USAID works with its implementation partners to integrate safe infant feeding practices with programs that prevent mother-to-child HIV transmission (PMTCT). USAID spends about \$30 million each year on nutrition programs, which include Vitamin A, iodine, food fortification, anemia packages, and zinc.²⁵

²¹ WHO, *Comparative Quantification of Health Risks*, 2004, p. 108, at <http://www.who.int/publications/cra/chapters/volume1/0039-0162.pdf>.

²² Information in this paragraph was summarized by CRS from USAID's website on nutrition, at http://www.usaid.gov/our_work/global_health/nut/.

²³ Information on USAID's micronutrient efforts was compiled by CRS from USAID's website on nutrition, at http://www.usaid.gov/our_work/global_health/nut/, visited on February 13, 2008.

²⁴ Information in this paragraph was summarized by CRS from USAID's website on IYCF, at http://www.usaid.gov/our_work/global_health/nut/techareas/childfeeding.html, visited on February 13, 2008.

²⁵ Remarks by Kent Hill, Assistant Administrator, Bureau for Global Health at the launch of the Lancet's Series on Maternal and Child Under-Nutrition, January 16, 2008. See <http://www.usaid.gov/press/speeches/2008/sp080116.html>, visited on June 23, 2008.

Child Survival and Acute Respiratory Infections (Pneumonia)

UNICEF asserts that pneumonia can be largely prevented if indoor pollution is minimized and if children are adequately nourished, exclusively breastfed, and receive Vitamin A and zinc supplements (as necessary).²⁶ Children should also receive the full series of immunizations against infections that directly cause pneumonia, such as *Haemophilus influenzae* type b (Hib), and those that can lead to pneumonia as a complication (e.g., pertussis). International health organizations also seek to expand access to vaccines that protect against *Streptococcus pneumoniae*, the most common cause of severe pneumonia among children in the developing world.

USAID reports that since 2002, it has supported the administration of immunizations to almost 500 million children and the treatment of more than 375 million cases of child pneumonia.²⁷ In the mid-1990s, UNICEF and WHO developed the Integrated Management of Childhood Illness (IMCI) with USAID support. The strategy integrates interventions for diarrhea, acute respiratory infections, malnutrition, and malaria. In recent years, USAID has expanded the IMCI strategy.²⁸

Child Survival and Malaria

Approximately 40% of the world's population, mostly those living in the world's poorest countries, are at risk of malaria. Every year, more than 500 million people become severely ill with malaria. Most cases, and most deaths, are in sub-Saharan Africa, though Asia, Latin America, the Middle East, and parts of Europe are also affected. The disease is particularly deadly for children; at least 1 million infants and children under age five in sub-Saharan Africa die each year from malaria—approximately one every 30 seconds.

USAID has been engaged in malaria eradication efforts since the 1950s. In 2005, the President proposed the President's Malaria Initiative (PMI), an interagency effort that aims to increase support for U.S. international malaria programs by more than \$1.2 billion from FY2006 through FY2010 in 15 targeted countries and reduce the number of malaria deaths by 50% in those countries by 2010.²⁹ USAID coordinates all PMI activities, which are implemented in partnership with the Centers for Disease Control and Prevention (CDC) of the Department of Health and Human Services (HHS). Advancements made under the initiative are not reported by agency, thus it is not possible to distinguish USAID's contributions to U.S. anti-malarial programs.

In January 2008, USAID reported that in its first year, PMI reached more than 6 million people and within two years, reached more than 25 million.³⁰ Activities included

- indoor residual spraying in 10 PMI countries, benefitting more than 17 million people;

²⁶ See UNICEF, "UNICEF Welcomes Spotlight on a Major Cause of Childhood Deaths in Latest WHO Bulletin," May 1, 2008, at http://www.unicef.org/media/media_43753.html, visited on July 21, 2008.

²⁷ USAID, "Investing in People," May 31, 2007, *Fact Sheet*, at http://www.usaid.gov/press/factsheets/2007/fs070531_1.html, visited on February 7, 2008.

²⁸ USAID website on Integrated Management of Childhood Illnesses (IMCI), at http://www.usaid.gov/our_work/global_health/mch/ch/techareas/imci.html, visited on February 7, 2008.

²⁹ For more information on PMI see <http://www.fightingmalaria.gov/>.

³⁰ USAID, "The President's Malaria Initiative," January 2008, *Fact Sheet*, at http://www.fightingmalaria.gov/resources/pmi_fastfacts.pdf, visited on February 8, 2008.

- procuring and distributing more than 4.7 million long lasting insecticide-treated nets (LLITNs) and retreating more than 1.1 million insecticide-treated nets (ITNs);
- procuring 12.6 million malarial treatments, including the distribution of 6.2 million;
- training more than 28,000 health workers in the correct use of malarial treatment; and
- purchasing more than 4 million anti-malarial tablets to reduce the impact of malaria in pregnancy.

Child Survival and HIV/AIDS

HIV/AIDS is preventable and treatable, but not curable. Most of the 420,000 children who acquired HIV in 2007 contracted the virus from their HIV-infected mothers during pregnancy, birth, or breastfeeding.³¹ With successful interventions the risk of mother-to-child HIV transmission can be reduced to 2%. About 33% of HIV-positive pregnant women in most resource-limited countries—where the burden of HIV is highest—receive drugs that can prevent mother-to-child HIV transmission (PMTCT).³² Nevirapine, a drug widely used to prevent mother-to-child HIV transmission, costs between \$0.29 and \$0.40 per dose.³³ A Nevirapine tablet is taken by the mother at the onset of labor and Nevirapine syrup is given to the infant within 72 hours of birth.³⁴

WHO asserts that it is critical that children are diagnosed early and provided with antiretroviral therapy (ART) as early as possible, as the course of HIV infection is faster and more aggressive in children. The cost of ART is significantly higher for children than for adults. UNAIDS estimates that an annual supply of generic ARTs costs about \$260 per child, while the same regimen for adults costs about \$183.³⁵ Fixed-dosed treatments, in which two or three different drugs are combined in a single pill, have proved to be most effective, though they are more expensive for children. In 2005, a one-year supply of a standard three-drug regimen for an adult costs an average of \$148 in low-income countries, but the regimen for children cost \$2,000 per child and \$800 for a generic version. The Clinton Foundation, however, was able to negotiate with pharmaceutical companies to charge lower prices for pediatric ARTs in its programs—about \$0.16 per day or \$60 per year.³⁶

Health experts point out that ART is not the only treatment that can be used to reduce child mortality among HIV-positive children. Treatment of opportunistic infections, such as

³¹ WHO's website on the prevention of mother-to-child HIV transmission (PMTCT) at <http://www.who.int/hiv/mtct/en/index.html>, visited on February 8, 2008.

³² WHO, UNAIDS, and UNICEF, *Towards Universal Access: Scaling Up Priority HIV/AIDS Interventions in the Health Sector*, 2008, p. 7, at http://www.who.int/hiv/pub/towards_universal_access_report_2008.pdf.

³³ USAID and Partners for Health Reformplus, *Costing Nevirapine Delivery to Infants: A Zambian Case Study*, August 2004, p. 9, at http://www.who.int/hiv/amds/countries/zmb_CostingNevirapineDeliveryInfants.pdf, visited on June 10, 2008.

³⁴ USAID and Path, *The Nevirapine Infant-Dose Pouch for Use in Prevention of Mother-to-Child Transmission of HIV/AIDS Programs*, August 2006, p. 2, at http://www.path.org/files/TS_NVP_sourcing_guide.pdf.

³⁵ Ibid.

³⁶ Clinton Foundation, "President Clinton Announces Breakthroughs in HIV/AIDS Treatment for Children," November 30, 2006, press release, at <http://www.clintonfoundation.org/113006-nr-cf-hs-ai-ind-pr-wjc-announces-breakthroughs-in-hiv-aids-treatment-for-children.htm>, visited on February 8, 2008.

pneumonia, can also improve child survival among HIV-positive children. Cotrimoxazole—a drug used to treat pneumonia—has been found to reduce mortality in children with HIV/AIDS by about 30% and costs about \$0.03 per day or \$10 per year. It is estimated that only 10% of the 4 million children who need the drug are receiving it.³⁷

USAID reports that since 1986, it has spent \$6 billion on HIV/AIDS interventions in more than 100 countries.³⁸ Since the inception of the President's Emergency Plan for AIDS Relief (PEPFAR), USAID stopped reporting its projects' outcomes. Instead all participating agency and department outcomes are reported as PEPFAR advancements. Through September 2007, PEPFAR implementing agencies and departments have provided more than \$289.2 million to initiatives that have offered care and support to some 2.7 million orphans and vulnerable children (OVC).³⁹ PEPFAR's food and nutrition programs reached some 332,000 OVC, 50,000 pregnant or lactating women, and an additional 20,000 severely malnourished individuals who were on ART. PEPFAR's child-focus programs support training for those who care for OVC, promote the use of time- and labor-saving technologies, support income-generating activities, and connect children and families to essential health care and other basic social services.

The Administration asserts that support for people living with HIV/AIDS who receive treatment, care, and support services should also be considered when analyzing support for children, as HIV-infected adults receiving support are better able to provide a nurturing, protective environment for their children. Through September 2007, PEPFAR has committed some \$1.5 billion for programs that offer care and support to people living with HIV/AIDS.

In FY2006 and FY2007, PEPFAR partnerships dedicated nearly \$191.5 million to pediatric treatment for some 85,900 children and from FY2004 through FY2007, PEPFAR-implementing agencies supported PMTCT services for women during more than 10 million pregnancies. PMTCT services included the provision of ART to HIV-positive women in over 827,000 pregnancies, preventing an estimated 157,000 infant HIV infections.

Child Survival and Diarrhea

Through research, UNICEF, WHO, and USAID found that diarrhea could be prevented and treated with Oral Rehydration Salts (ORS) and fluids, breastfeeding, continued feeding, and selective use of antibiotics and zinc supplementation for 10-14 days.⁴⁰ USAID reports that since 2002, it has provided more than \$1.5 billion in support of the treatment of almost 5 billion episodes of child diarrhea with lifesaving ORS.⁴¹ USAID also controls diarrheal disease by

³⁷ Ibid.

³⁸ USAID's website on HIV/AIDS, at http://www.usaid.gov/our_work/global_health/aids/, visited on March 6, 2008. From FY2004-FY2008, PEPFAR participating agencies and departments spent \$19.7 billion on global HIV/AIDS, tuberculosis, and malaria programs. For more information on PEPFAR, see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, by Tiaji Salaam-Blyther, and CRS Report RL34192, *PEPFAR: Policy Issues from FY2004 through FY2008* both by Tiaji Salaam-Blyther.

³⁹ PEPFAR-related outcomes were compiled by CRS from the Office of Global AIDS Coordinator, *The Power of Partnerships: The U.S. President's Emergency Plan for AIDS Relief Fourth Annual Report to Congress*, p. 8, 2008, at <http://www.pepfar.gov/documents/organization/100029.pdf>, visited on February 12, 2008.

⁴⁰ WHO/UNICEF, "Clinical Management of Acute Diarrhea," *Joint Statement*, at http://www.afro.who.int/cah/documents/intervention/acute_diarrhoea_joint_statement.pdf.

⁴¹ USAID, "Investing in People." May 31, 2007, *Fact Sheet*, at http://www.usaid.gov/press/factsheets/2007/fs070531_1.html, visited on February 7, 2008.

training health workers, promoting breastfeeding, applying social marketing and modern communication techniques, and expanding community capacity to administer ORS.

USAID's anti-diarrhea programs also focus on hygiene, which plays a significant role in the transmission of diarrhea. USAID estimates that handwashing with soap can decrease diarrhea prevalence among children by 42% to 46%.⁴² While soap is found in most households, USAID contends that handwashing with soap is not common in poorer communities and that soap is usually reserved for bathing or washing clothes and dishes. In one USAID-supported study, 1% of mothers in Burkina Faso used soap to wash their hands after using the toilet and 18% after cleaning a child's bottom.⁴³ In slums in Lucknow, India, 13% of mothers were observed using soap after cleaning up a child and 20% after going outside to defecate. USAID supports public-private partnerships that promote handwashing with soap and other hygienic practices, such as safe storage and treatment of water, which can reduce diarrhea prevalence by 30% to 40%.

Child Survival and Measles

WHO asserts that measles immunization is one of the most cost-effective public health interventions available for preventing childhood deaths and that it carries the highest health return for the money spent, saving more lives per unit cost than any other health intervention.⁴⁴ The vaccine, injection equipment and operational costs amount to less than \$1 per dose. The vaccine, which has been available for more than 40 years, costs about \$0.33 per bundled dose (vaccine plus safe injection equipment) if bought through UNICEF. In many countries where the public health burden of rubella and/or mumps is considered to be important, the measles vaccine is often incorporated with rubella and/or mumps vaccines as a combined, live-attenuated (weakened) measles-rubella (MR) or measles-mumps-rubella (MMR) vaccine. If bought through UNICEF, a MR vaccine costs about \$0.65 per bundled dose, and MMR costs about \$1.04 to \$1.50 per bundled dose.

Immunization coverage rates for measles vaccination vary significantly by region. WHO and UNICEF estimate that in 2006 about 80% of all children were vaccinated, up from 72% in 2000. From 2000 to 2006, an estimated 478 million children from nine months to 14 years of age received measles vaccinations through supplementary immunization activities in 46 out of the 47 priority countries with the highest burden of measles. These accelerated activities have resulted in a significant reduction in global measles deaths. Overall, global measles mortality decreased by 68% between 2000 and 2006. The largest gains occurred in Africa, where measles cases and deaths fell by 91%.

USAID does not indicate how it specifically addresses measles, though it asserts that immunization programs are one of its greatest public health success stories.⁴⁵ USAID-supported immunization programs "train health workers; strengthen planning capacity; and improve the quality of service delivery and vaccine administration" in more than 100 countries. USAID also partners with others, such as Global Alliance for Vaccines and Immunization (GAVI), the Vaccine

⁴² USAID website on hygiene improvement interventions, at http://www.usaid.gov/our_work/global_health/eh/techareas/improvement_interventions.html, visited on February 12, 2008.

⁴³ USAID website on optimal handwashing, at http://www.usaid.gov/our_work/global_health/eh/techareas/handwashing.html, visited on February 12, 2008.

⁴⁴ Information in this section was compiled by CRS from WHO, "Measles," November 2007, *Fact Sheet*, at <http://www.who.int/mediacentre/factsheets/fs286/en/>, visited on February 8, 2008.

⁴⁵ Information in this paragraph was summarized by CRS from USAID's website on immunizations, at http://www.usaid.gov/our_work/global_health/mch/ch/techareas/immunization.html, visited on June 23, 2008.

Fund, and the Bill and Melinda Gates Foundation to bolster countries' capacity to administer vaccines.

USAID's Efforts to Improve Maternal and Newborn Health⁴⁶

USAID's maternal health programs seek to ensure healthy pregnancy outcomes in low-resource environments through a wide range of interventions, including nutritional supplementation for mothers, treatment for parasitic worms that disrupt nutrient absorption, tetanus toxoid immunizations, prevention of mother-to-child HIV transmission, intermittent treatment for malaria, and detection and treatment of syphilis.

USAID advocates that families plan for all births to be attended by a skilled birth attendant and that communities develop contingency plans for accessing emergency obstetric care for mothers who deliver at home—the preferred method in many cultures. USAID trains birth attendants to avert infant deaths by facilitating infant breathing, resuscitating, and caring for the infant in the event of birth asphyxia; ensuring hygienic cord and eye care; and encouraging immediate breastfeeding. Community-based maternal health interventions include teaching families and communities to recognize birth complications and where to bring a mother for emergency care, identifying transportation to a hospital ahead of time, identifying a blood donor for the mother, and creating a savings plan for health care costs. This section discusses how USAID reports it addresses key causes of maternal mortality.

Maternal Health and Hemorrhage

USAID estimates that 32% of all maternal deaths are caused by postpartum hemorrhage. Low-cost interventions can prevent and treat the condition.⁴⁷ In order to avert postpartum hemorrhage deaths, USAID urges communities to ensure that all mothers give birth in the presence of a trained health care practitioner who can administer drugs that slow or stop the bleeding and apply other life-saving techniques to prevent and treat postpartum hemorrhage. USAID-supported programs train birth attendants to actively manage the third stage of labor, which includes controlled traction of the umbilical cord, uterine massage, and the use of oxytocin—a drug that slows the flow of blood. USAID reports that this intervention can prevent 60% of hemorrhages.

Maternal Health and Sepsis

On average, sepsis or other infections cause nearly 10% of all maternal deaths in Africa, Asia, Latin America, and the Caribbean.⁴⁸ A number of factors contribute to this problem. A USAID-supported study identified unhygienic delivery practices as a key cause of the affliction. Common practices such as introducing unclean hands, local herbs, or cloths inside the vagina during or after delivery and delivering in unclean conditions all contribute to sepsis. In addition, untrained delivery attendants might also use unclean instruments to cut the umbilical cord. USAID supports efforts to distribute delivery kits and ensure the presence of a trained delivery attendant at each

⁴⁶ Unless otherwise indicated, this section was written in conjunction with USAID officials.

⁴⁷ Khalid S. Khan et al., "WHO Analysis of Causes of Maternal Death: A Systematic Review," *The Lancet*, April 1, 2006, volume 367, at <http://www.thelancet.com/journals/lancet/article/PIIS0140673606683979/fulltext>.

⁴⁸ Ibid.

birth to prevent mothers and babies from contracting sepsis.⁴⁹ In addition, USAID trains birth attendants to identify signs of infection and to use antibiotics and other measures, where necessary.

Maternal Health and Hypertensive Disorders

Hypertensive disorders cause about 9% of maternal deaths in Africa and Asia and nearly 26% of maternal deaths in Latin America and the Caribbean. USAID trains health care providers to recognize the signs and symptoms of pre-eclampsia (high blood pressure and proteinuria) and of eclampsia (convulsions) and to treat mothers with anti-convulsant drugs and supportive care.

Maternal Health and Prolonged or Obstructed Labor

A mother might experience prolonged or obstructed labor if she is unable to deliver her baby for any number of reasons, including the position of the baby, the direction in which the baby faces, or if the baby's head cannot fit through the mother's pelvis. If the delivery complication is not resolved, the baby may die or the mother and/or baby can suffer life-long debilities. Obstetric fistula is one of the most common consequences of prolonged or obstructed labor for pregnant women in low-resource settings.⁵⁰

Young girls and women who were stunted due to undernourishment, and who live in areas without obstetric care, are more likely to develop obstetric fistula because of their underdeveloped pelvic regions. In Kenya, one study found that 45% of all fistula cases were among adolescents.⁵¹ Obstetric fistula can be prevented by delaying pregnancy until the girl's pelvic region is fully developed, ensuring that women have ready access to emergency obstetric care in the case of prolonged labor, and removing the fetus through a caesarean surgery when needed.

USAID reports that it has supported fistula prevention programs since 1989 and repair programs since 2005. Obstetric fistula prevention programs are commonly integrated with other programs that address the major causes of maternal death and disability. Key activities include increasing access for women to emergency obstetrical care, encouraging the postponement of child marriage and sexual debut, training families and community health practitioners to identify the signs of prolonged or obstructed labor, increasing access for women to emergency obstetrical care, and reducing stigma about obstetric fistula.⁵²

⁴⁹ WHO, *Improving Neonatal Health in South-East Asia Region*, April 2002, at http://pdf.usaid.gov/pdf_docs/PNACR332.pdf.

⁵⁰ Obstetric fistula occurs mostly when the mother cannot deliver the baby after laboring for two or more days. Pressure from the baby's head can interrupt blood flow to tissues in the pelvic area and, without intervention, the baby dies. The mother then passes the smaller, decomposed body. After pushing for a number of days a hole develops in the tissue between the vagina and bladder (and at times the rectum), causing incontinence. Fistula survivors may also suffer nerve damage, which can make walking difficult. Fistula survivors are often stigmatized and usually shunned due to their strong odor. For more information on obstetric fistula, see CRS Report RS21773, *Reproductive Health Problems in the World: Obstetric Fistula: Background Information and Responses*, by Tiaji Salaam-Blyther.

⁵¹ CDC, *Family Planning Methods and Practice: Africa*, 1999, at <http://www.cdc.gov/reproductivehealth/Products&Pubs/Africa/preface.pdf>, visited on June 9, 2008.

⁵² Information in this paragraph was compiled by CRS from USAID, *USAID Bureau for Global Health Fistula Strategy: FY2003-FY2008*, at http://www.usaid.gov/our_work/global_health/mch/mh/fistula_strategy.doc, visited on June 24, 2008.0

Maternal Health and Unsafe Abortions

WHO estimates that complications due to unsafe abortion procedures account for 13% of maternal deaths worldwide, amounting to 67,000 deaths each year.⁵³ There are significant regional variations, however. In Latin America and the Caribbean, the practice accounts for 12% of maternal deaths on average, while in Africa, about 4% of women die after attempting an unsafe abortion.⁵⁴ USAID reports that its international family planning programs help to avoid these deaths and that it has helped to avert an estimated 4 million maternal deaths over the last 20 years.

Changes in USAID Global Health Appropriations

FY2001-FY2003

From FY2001 to FY2003, appropriations to USAID's CS/MH programs, in current terms, grew by about 8%, and overall support for USAID's global health programs grew by about 28% (**Table 7**). The bulk of that growth came from increases in appropriations to HIV/AIDS and other infectious diseases (OID), which each grew by 65% and 24%, respectively.⁵⁵ Higher appropriations for HIV/AIDS programs during this time period reflect support for the President's International Mother and Child HIV Prevention Initiative.⁵⁶ The majority of OID funds were directed to tuberculosis and malaria programs. Throughout these years, Congress also demonstrated its strong support for the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria (Global Fund) with increased appropriations for U.S. contributions to the Fund (**Table 7** and **Figure 1**).

Table 7. USAID Global Health Programs: FY2001-FY2003
(current U.S. \$ millions)

Program	FY2001 Enacted	FY2002 Enacted	FY2003 Enacted	% Change: FY2001- FY2003
Child Survival/Maternal Health (CS/MH)	\$361.1	\$391.7	\$389.7	0.079
Vulnerable Children (VC)	\$36.7	\$32.3	\$34.3	-0.065
HIV/AIDS	\$318.0	\$424.0	\$523.8	0.647
Other Infectious Diseases (OID)	\$140.2	\$182.0	\$173.1	0.237
Family Planning/Reproductive Health (FP/RH)	\$425.0	\$425.0	\$443.6	0.044
United Nations Children's Fund (UNICEF) Grant	\$109.8	\$120	\$119.2	8.6%

⁵³ WHO, *Facts on Induced Abortion Worldwide*, October 2007, at http://www.who.int/reproductive-health/unsafe_abortion/induced_abortion_worldwide.pdf, visited on June 9, 2008.

⁵⁴ Khalid S. Khan et al, "WHO Analysis of Causes of Maternal Death: A Systematic Review," *The Lancet*, April 1, 2006, volume 367.

⁵⁵ The majority of OID funds were spent on TB and malaria programs. Other diseases were supported by these funds, however, such as polio.

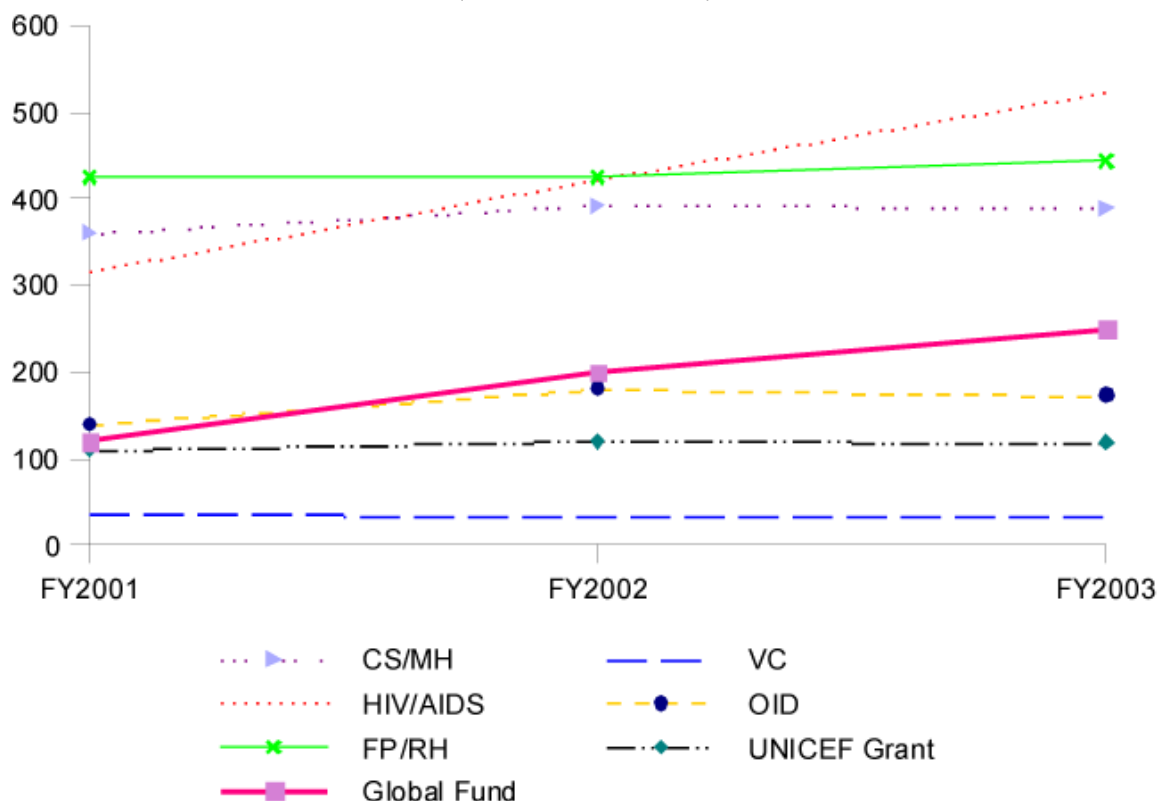
⁵⁶ For more on U.S. global HIV/AIDS policies, see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, by Tiaji Salaam-Blyther. Also see The White House, "President Bush's International Mother and Child HIV Prevention Initiative," June 19, 2002, at <http://www.whitehouse.gov/news/releases/2002/06/20020619-1.html>.

Program	FY2001 Enacted	FY2002 Enacted	FY2003 Enacted	% Change: FY2001- FY2003
Global Fund	\$119.7	\$200.0	\$250.0	108.9%
Total	1510.5	1775	1933.7	28.0%

Source: USAID Budget Office, May 16, 2008.

Figure 1. USAID Global Health Programs: FY2001-FY2003

(current U.S. \$ millions)



Source: USAID Budget Office, May 16, 2008.

Note: In FY2001, \$62 million was provided to global TB interventions and \$55 million to malaria programs; in FY2002, \$72 million to TB and \$71 million to malaria; and in FY2003, \$76.6 million to TB and \$65.4 million to malaria.

FY2004-FY2008

From FY2004 through FY2008, U.S. support for global HIV/AIDS, TB, and malaria programs began to dominate discussions about USAID's health programs. While some Members applauded the Administration's focus on HIV/AIDS, particularly through the President's Emergency Plan for AIDS Relief (PEPFAR),⁵⁷ they questioned why the Administration requested less for other

⁵⁷ For more information on PEPFAR, see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, and CRS Report RL34192, *PEPFAR: Policy Issues from FY2004 through FY2008*, both by Tiaji Salaam-Blyther.

global health interventions, particularly those related to child survival, maternal health, family planning, and reproductive health.⁵⁸ Other Members challenged the Administration to consider the ability of recipient countries to absorb burgeoning HIV/AIDS funds because of overtaxed health infrastructures. Congress urged the Administration to better integrate HIV/AIDS and other health programs, particularly those related to TB and nutrition.

Still, appropriations to HIV/AIDS, TB, and malaria far outpaced support for USAID's other health programs. From FY2004 through FY2008, Congress provided \$19.7 billion for global HIV/AIDS, TB, and malaria programs.⁵⁹ During that same time period, Congress appropriated \$4.6 billion to USAID's child survival and maternal health, vulnerable children, and family planning and reproductive health initiatives (**Table 8** and **Figure 2**).

Table 8. USAID Global Health Programs: FY2004-FY2008
(current U.S. \$ millions)

Program	FY2004 Enacted	FY2005 Enacted	FY2006 Enacted	FY2007 Enacted	FY2008 Estimate	% Change: FY2004- FY2008	% of Global Health Budget	
							FY2004	FY2008
CS/MH	442.9	451.7	447.8	427.9	521.9	17.8%	26.6%	25.1%
VC	36.0	35.3	29.7	19.6	20.5	-44.3%	2.2%	1.0%
HIV/AIDS	555.5	384.7	373.8	345.9	371.1	-33.2%	33.4%	17.9%
OID	200.5	215.8	445.1	586.4	707.9	253.1%	12.0%	34.0%
TB	[85.1]	[92.0]	[91.5]	[94.9]	[162.2]	[90.6%]	[5.1%]	[7.8%]
Malaria	[79.9]	[90.8]	[102.0]	[94.9]	[349.6]	[337.5%]	[4.8%]	[16.8%]
H5NI (Avian Flu)	n/a	[16.3]	[161.5]	[248.0]	[115.0]	[605.5%] ^a	n/a	[5.5%]
Other	[35.5]	[16.7]	[90.1]	[161.5]	[81.1]	[128.5%]	[2.1%]	[3.9%]
FP/RH	429.5	437.0	435.0	435.6	457.2	6.5%	25.8%	22.0%
Global Fund (GF)	397.6	248.0	247.5	247.5	0.0	^b	n/a	n/a
Total with GF	2,062.0	1,772.5	1,978.9	2,062.9	2,078.6	0.8%	n/a	n/a
Total without GF	1,664.4	1,524.5	1,731.4	1,815.4	2,078.6	24.9% ^c	n/a	n/a

Source: USAID Budget Office, May 16, 2008.

Notes: Contributions to UNICEF are not included in this table, because Congress has appropriated those funds to GHAI since FY2004.

Abbreviations: CS/MH—Child Survival/Maternal Health; VC—Vulnerable Children; OID—Other Infectious Diseases; and FP/RH—Family Planning/Reproductive Health.

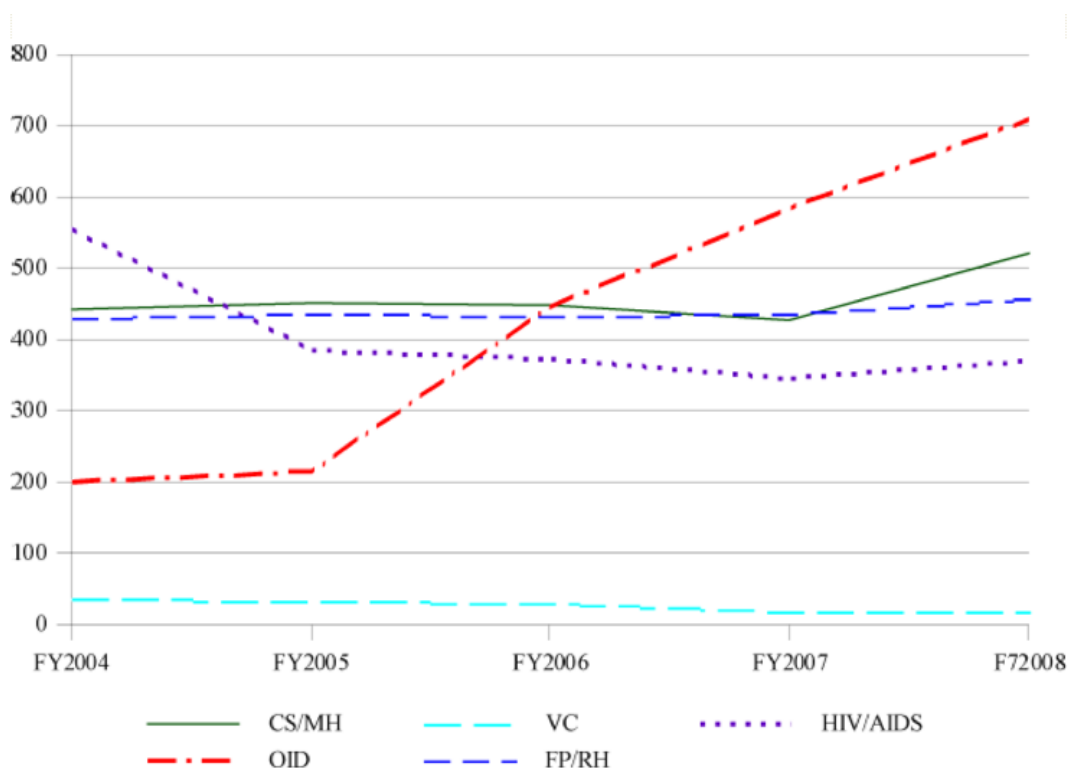
a. Because Congress began funding global avian flu interventions in FY2005, this percentage reflects changes in appropriations from FY2005 through FY2008.

⁵⁸ At a FY2007 House Foreign Operations Appropriations Subcommittee hearing on USAID's FY2007 budget request, for example, Representative Nita Lowey questioned the effectiveness of increasing spending on the Millennium Challenge Corporation (MCC) and PEPFAR, while proposing a reduction or no change in spending for other development assistance and non-AIDS programs.

⁵⁹ For more information see CRS Report RL33771, *Trends in U.S. Global AIDS Spending: FY2000-FY2008*, by Tiaji Salaam-Blyther.

- b. In FY2008, Congress provided the full U.S. contribution to the Global Fund from Foreign Operations Appropriations to GHAI. CRS did not calculate changes in appropriations to the Global Fund, because the Global Fund is not a bilateral program that the United States controls or through which the United States provides direct assistance. The final row reflects the increase in appropriations to USAID's global health programs without considering U.S. contributions to the Global Fund.
- c. Excludes U.S. contributions to the Global Fund.

Figure 2. USAID Global Health Programs: FY2004-FY2008
(current U.S. millions)



Source: USAID Budget Office, May 16, 2008.

Issues for Congress

Congress has consistently boosted appropriations to USAID's global health programs throughout the Administration of President George W. Bush, though mostly for specific diseases. From FY2001 through FY2008, Congress has supported the President's calls for higher spending on targeted, disease-specific U.S. programs through three key initiatives: the President's International Mother and Child HIV Prevention Initiative (FY2002-FY2004), PEPFAR (FY2004-FY2008), and the President's Malaria Initiative (FY2006-FY2010). At the same time, appropriations to other health issues, such as child survival and maternal health have changed little (with the exception of FY2008, when appropriations to CS/MH activities increased).

While most health experts applaud the recent increase in U.S. commitment to countering the global spread of diseases like HIV/AIDS, many remained concerned that other health programs that offer life-saving interventions for women and children are overlooked and underfunded, particularly in sub-Saharan Africa. The World Health Organization asserts that some two-thirds of child deaths are preventable through practical, low-cost interventions. Those expressing concern

about the apportionment of U.S. global health funds argue that HIV/AIDS, TB, and malaria are not the only diseases killing people. In addition to proposing an increase in funding for CS/MH programs, some observers urge Congress to boost support for other health issues that affect child survival and maternal health.⁶⁰

Consider Role of Family Planning in Improving Maternal and Child Health

Some urge Congress to consider how voluntary family planning could improve maternal and child health. According to USAID, family planning activities protect the health of women by reducing high-risk pregnancies and the health of children by allowing sufficient time between pregnancies; prevent HIV/AIDS with information, counseling, and access to male and female condoms; reduce abortions; and protect the environment by stabilizing population growth.⁶¹ Others oppose funding family planning for a number of reasons, including concern that in some countries abortions and coercive practices may occur in family planning programs.

Family planning can help improve the morbidity and mortality rates of adolescent girls. In many rural areas of developing countries, girls are married and begin to have children in their teen years. Some research indicates that mothers younger than 20 years of age are at higher risk of delivering low-birthweight babies and suffer more pregnancy and delivery complications, such as toxemia, anemia, premature delivery, prolonged labor, and cervical trauma. Girls between 15 and 19 years of age are twice as likely to die from childbirth as women in their twenties, and those younger than 15 years of age are five times as likely to die.⁶² Young girls are also more likely to develop obstetric fistula. In Kenya, one study found that 45% of all fistula cases were among adolescents.⁶³ Obstetric fistula can be prevented by delaying pregnancy until the girl's pelvic region is fully developed and performing caesarean surgery when needed. The condition can be repaired for about \$300, a cost that is prohibitive to most young girls and women in the most affected countries.⁶⁴

Increase Support for Health System Strengthening and Improve Donor Coordination

Some observers advocate that Congress increase spending on health systems, because to significantly reduce maternal and child mortality, governments must be able to effectively undertake a range of health strategies, including ensuring income and food levels; the nutritional and health status of mothers; access to immunizations, oral rehydration therapy, and maternal and child health services (including prenatal care); safe drinking water; and basic sanitation.⁶⁵

⁶⁰ Also see WHO's website on The Partnership for Maternal, Newborn, and Child Health, at <http://www.who.int/pmnch/about/en/>, visited on June 23, 2008.

⁶¹ See USAID's website on family planning, at http://www.usaid.gov/our_work/global_health/pop/, visited on June 9, 2008.

⁶² *The Elimination of All Forms of Discrimination and Violence Against the Girl Child*, United Nations Economic and Social Council, E/CN.6/2007/2, December 12, 2006, at <http://daccessdds.un.org/doc/UNDOC/GEN/N06/657/13/PDF/N0665713.pdf?OpenElement>, visited on June 9, 2008.

⁶³ CDC, *Family Planning Methods and Practice: Africa*, 1999, at <http://www.cdc.gov/reproductivehealth/Products&Pubs/Africa/preface.pdf>, visited on June 9, 2008.

⁶⁴ See UNFPA website on obstetric fistula, visited on June 13, 2007.

⁶⁵ UNICEF, *The State of the World's Children 2008: Child Survival*, pp. 3 and 5.

Improvements in these areas are significantly affected by the strength of health systems and availability of health workers. UNICEF has found that without donor support, health systems in many countries cannot deliver essential interventions (such as vaccinations) sufficiently enough to reduce mortality nationwide.⁶⁶

Supporters of strengthening health systems urge Congress to direct USAID to better coordinate its health assistance with other donors and with respective health ministries to improve efficiency and overall health outcomes. Proponents of this idea point to WHO's International Health Partnership and related Initiatives (IHP+)—a coalition of international health agencies, governments, and donors committed to improving health and development outcomes in developing countries and reaching the health-related MDGs.⁶⁷ The IHP+ encourages donors to create a compact with countries to commit development partners and governments to support one results-oriented national health plan in a harmonized way that will ensure predictable, long-term financing from both national and international sources. A compact is a contract through which the international community and the recipient country reach consensus on results based on mutual accountability. Country compacts bind all donors and respective government agencies to one single country health plan, one monitoring and evaluation plan, one budget (with external funding harmonized with recipient countries' budget cycles), one reporting and validation process, and benchmarks for government performance.

Encourage Governments to Increase National Health Budgets

Global health experts increasingly underscore the role recipient governments should play in improving health systems. Some critics contend that donors must consider the role that political will plays in minimal health spending by many developing countries. According to the International Monetary Fund (IMF), when asked about the most important reason health funds go unspent, some 29% of health practitioners who were surveyed cited a lack of political will, and only 1% blamed IMF or World Bank restrictions.⁶⁸

According to WHO, on average each year, the 57 countries with severe shortages of health workers spend about \$33 per person on health;⁶⁹ comparatively, each year the U.S. government spends approximately, \$2,548 per capita on health.⁷⁰ The entire continent of Africa spends less than 1% of the world's expenditure on health.⁷¹ African leaders have pledged to increase spending on health.

In April 2001, Members of the African Union (AU) and the Organization of African Unity (OAU) signed the *Abuja Declaration on HIV/AIDS, Tuberculosis, and Other Infectious Diseases*, in which signatories pledged to spend at least 15% of their national budgets on health care.⁷²

⁶⁶ UNICEF, *Countdown to 2015: Maternal, Newborn & Child Survival*, 2008, p. vii.

⁶⁷ Information on IHP+ was summarized by CRS from WHO's website on IHP at <http://www.who.int/healthsystems/ihp/en/index.html> and WHO, *International Health Partnership and related Initiatives (IHP+) Harmonization of Health in Africa (HHA): Interregional Country Health Sector Teams Meeting, February 28—March 1, 2008*, at http://www.who.int/healthsystems/FINAL_IHP_LusakaWayForward.pdf, visited on June 16, 2008.

⁶⁸ Berg, Andrew, "Budgeting to Reduce Poverty in Africa," IMF African Department, April 11, 2007, at <http://www.imf.org/external/pubs/ft/survey/so/2007/POL0628A.htm>, visited on June 16, 2008.

⁶⁹ WHO, *Working Together for Health: The World Health Report 2006*, Slide 8, at http://www.who.int/whr/2006/media_centre/WHR06_slides_en.pdf, visited on June 17, 2008.

⁷⁰ Ibid, p. 189, at http://www.who.int/whr/2006/whr06_en.pdf, visited on June 17, 2008.

⁷¹ Ibid, p. xix.

⁷² Abuja Declaration, http://www.un.org/ga/aids/pdf/abuja_declaration.pdf.

According to the *Progress Report on the Implementation of the Plans of Action of the Abuja Declarations on Malaria (2000)*, and *HIV/AIDS and Tuberculosis (2000/1 to 2005)*, 33% of AU States had allocated 10% or more of their national budgets to the health sector by 2004, 38% spent between 5% and 10% on health care, and 29% indicated reserving less than 5% of their national budgets for health systems. Only Botswana reported spending at least 15% on health.⁷³

Although most health experts agree that African governments need to boost their health budgets, some counter that poor political will is not the primary cause of low health spending. Instead, opponents argue that structural adjustment programs and conditional lending practices have limited African governments' abilities to increase investments in public health and health worker education.⁷⁴ Shrunk health budgets have led to a decline in the quality of education and training opportunities for medical students, a perpetual shortage of health supplies and equipment (e.g., sanitation gloves and hypodermic needles), insufficient medicine and vaccine stocks, and a brain drain of African health workers. The International Development Research Center maintains, however, that discussions about the impact of structural adjustment, conditional lending, and health reform on public health infrastructures are often laden with biased terminology that observers use to make "sweeping triumphalist or catastrophist arguments."⁷⁵ The organization found that results of structural adjustment, conditional lending, and health reform were mixed and that the organization could "support neither the opinion of those who believe the erosion of public expenditure on health is a characteristic feature of adjustment, nor of those who hold the opposite view."⁷⁶

Legislation Introduced in the 110th Congress Related to Maternal and Child Health

Below is a list of bills introduced to date in the 110th Congress to directly and indirectly improve maternal and child health.

H.Amdt. 360 to H.R. 2764, Consolidated Appropriations Act of 2008, increased support for maternal and child health by \$5 million for FY2008. The amendment was incorporated into the bill, which was enacted and became P.L. 110-161.

H.R. 5501 and **S. 2731**, Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008, authorize \$50 billion and \$48 billion, respectively, for international HIV/AIDS, TB, and malaria interventions and require that women receiving drugs to prevent mother-to-child HIV transmission are also provided with or

⁷³ Progress Report on Abuja Declarations, http://www.africa-union.org/root/au/conferences/past/2006/may/summit/doc/en/SP_ExCL_ATM6I_Progress_Report.pdf, visited on June 9, 2008. The progress report showed that most of the countries that had allocated less than 5% were in West and Central Africa. Those countries reporting spending 10% or more included, South Africa (10%), Mozambique (11%), Libya (11.3%), Uganda and Namibia (12%), Tanzania, Gambia, and Ghana (13%), Sao Tome (14%), and Zimbabwe (14.5). Ethiopia reported spending the least on health care, with 2% of the national budget reserved for those purposes.

⁷⁴ "World Bank: Hazardous to Africa's Health," *Africa Action*, April 21, 2006 at <http://www.africaaction.org/resources/page.php?op=read&documentid=207&type=7&issues=11&campaigns=2>, and "Nurse Exodus Leaves Kenya in Crisis," *Guardian Unlimited*, May 21, 2006, at <http://www.guardian.co.uk/kenya/story/0,,1779821,00.html>, visited on June 9, 2008.

⁷⁵ International Development Research Center, *Safeguarding the Health Sector in Times of Macroeconomic Instability*, 2008, Foreword, p. 4, at <http://www.idrc.ca/openbooks/370-6/>, visited on June 16, 2008.

⁷⁶ Ibid, Chapter 11, p. 209. Also see *Center for Global Development, Does the IMF Constrain Health Spending in Poor Countries? Evidence and an Agenda For Action*, July 2007, at <http://www.cgdev.org/content/publications/detail/14103/>, visited on June 16, 2008.

referred to appropriate maternal and child services. The House version, which passed by recorded vote, 308-116, calls for linkages to and referral systems for NGOs that implement multi-sectoral approaches for access to HIV/AIDS education and testing in family planning and maternal health programs supported by the United States. The Senate version does not include language on family planning. The Senate passed H.R. 5501 by voice vote, 80-16, with a substitute amendment that inserted the language of S. 2731 after amendments were made on the Senate floor.

H.R. 1302 and **S. 2433**, Global Poverty Act of 2007, require the President to develop and implement a comprehensive strategy to advance U.S. efforts to promote the reduction of global poverty, the elimination of extreme global poverty, and the achievement of the Millennium Development Goal of reducing by one-half the proportion of people worldwide, between 1990 and 2015, who live on less than \$1 per day. Language in the bills indicates that improving maternal and child health is part of this comprehensive strategy. The House passed the bill by voice vote on September 25, 2007, and referred it to the Senate Foreign Relations Committee. The Senate version was placed on the Senate calendar on April 24, 2007.

H.R. 2266 and **S. 1418**, U.S. Commitment to Global Child Survival Act of 2007, provide assistance to improve the health of newborns, children, and mothers in developing countries, and for other purposes. The House version was referred to the House Foreign Affairs Committee. The Senate version was reported out of the Senate Foreign Relations Committee and placed on the Senate legislative calendar.

H.R. 1225, Focus on Family Health Worldwide Act of 2007, amends the Foreign Assistance Act of 1961 to improve voluntary family planning programs in developing countries, and for other purposes. The bill was referred to the House Foreign Affairs Committee.

H.R. 2114, Repairing Young Women's Lives Around the World Act, provides a U.S. voluntary contribution to the United Nations Population Fund for the prevention, treatment, and repair of obstetric fistula. The bill was referred to the House Foreign Affairs Committee.

H.R. 2604, United Nations Population Fund Women's Health and Dignity Act, provides financial and other support to the United Nations Population Fund to carry out activities to save women's lives, limit the incidence of abortion and maternal mortality associated with unsafe abortion, promote universal access to safe and reliable family planning, and assist women, children, and men in developing countries to live better lives. The bill was referred to the House Foreign Affairs Committee.

S. 1998, International Child Marriage Prevention Act of 2007, authorizes funds to reduce child marriage, and for other purposes. The bill was referred to the Senate Foreign Relations Committee.

S. 2682, United Nations Population Fund Restoration Act of 2008, directs U.S. funding to the United Nations Population Fund for certain purposes including maternal and child health. The bill was referred to the Senate Foreign Relations Committee.

H.Res. 1045, Global Security Priorities Resolution, while acknowledging a need to address the threat of international terrorism and protect the global security of the United States, calls for reducing the number and accessibility of nuclear weapons and preventing their proliferation. The resolution estimates that "the savings generated in the long term by significant reduction of nuclear armaments will be appreciable, with estimates as high as \$13 million annually." The resolution directs a portion of these savings towards child survival, hunger, and universal education, and calling on the President to take action to achieve these goals. The resolution was referred to the House Foreign Affairs Committee.

H.Res. 1022, affirms the House’s commitment to promoting maternal health and child survival at home and abroad through greater international investment and participation and recognizes maternal health and child survival as fundamental to the well-being of families and societies, and to global development and prosperity. The House agreed to suspend the rules and agree to the resolution, as amended, but the motion to reconsider was agreed to without objection.

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